

IN THE CLAIMS:

The status of the claims is as follows:

1. (Currently Amended) A semiconductor package comprising:
 - a semiconductor die having an integrated circuit (IC);
 - a substrate having a die side coupled to the IC; and
 - a plurality of multi-signal bus bars coupled to a socket side of the substrate, ~~such that~~ the bus bars to enable input/output (I/O) signals to be transported between the substrate and a socket.

2. (Currently Amended) The package of claim 1 wherein at least one of the multi-signal bus bars includes:
 - a first dielectric member;
 - an electrically conductive reference member coupled to a first surface of the first dielectric member, the reference member defining a current path for a reference signal; and
 - a first plurality of electrically conductive I/O members coupled to a second surface of the first dielectric member through a dielectric layer, ~~such that~~ the first I/O members to define current paths for a corresponding first plurality of I/O signals.

3. (Currently Amended) The package of claim 2 wherein the first I/O members have a predetermined spacing, ~~such that~~ the first I/O members being ~~are~~ electrically isolated from one another.

4. (Original) The package of claim 3 further including a dielectric layer disposed between the first dielectric member and the first I/O members.

5. (Original) The package of claim 2 wherein the I/O members have a current carrying capability that is above a predetermined current threshold.

6. (Original) The package of claim 2 wherein the I/O and reference members are bonded to the dielectric member with an adhesive material.

7. (Currently Amended) The package of claim 2 wherein the bus bar is to have ~~has~~ an inductance that is controlled to a predetermined inductance threshold for an operating frequency of the IC.

8. (Currently Amended) The package of claim 2 wherein the multi-signal bus bar further includes:

a second dielectric member having a first surface coupled to the reference member, ~~such that~~ the dielectric members being ~~are~~ positioned on opposite sides of the reference member; and

a second plurality of electrically conductive I/O members coupled to a second surface of the second dielectric member, ~~such that~~ the second I/O members to define current paths for a corresponding second plurality of I/O signals.

9. (Currently Amended) The package of claim 2 wherein the reference member is to provide ~~provides~~ a current path for a reference voltage.

10. (Currently Amended) The package of claim 2 wherein the reference member is to provide~~provides~~ a current path for a reference ground.

11. (Original) The package of claim 1 wherein the multi-signal bus bars have a substantially planar geometry.

12. (Original) The package of claim 1 wherein the substrate includes:
a plurality of die-side contact pads;
a plurality of board-side contact pads; and
a base having a plurality of traces and vias interconnecting the die-side contact pads and the board-side contact pads.

13. (Original) The package of claim 1 wherein the IC is a computer processor.

14. (Currently Amended) A multi-signal bus bar comprising:
a dielectric member;
an electrically conductive reference member coupled to a first surface of the dielectric member, the reference member defining a current path for a reference signal; and
a plurality of electrically conductive I/O members coupled to a second surface of the dielectric member, ~~such that the I/O members~~ to define current paths for a corresponding plurality of I/O signals, the bus bar having a substantially planar overall geometry.

15. (Currently Amended) The bus bar of claim 14 wherein the I/O members have a predetermined spacing, ~~such that~~ the I/O members being ~~are~~ electrically isolated from one another.

16. (Currently Amended) The bus bar of claim 14 ~~13~~ further including a dielectric layer disposed between the dielectric material and the I/O members.

17. (Original) The bus bar of claim 14 wherein the I/O members have a current carrying capability that is above a predetermined current threshold.

18. (Original) The bus bar of claim 14 wherein the members are bonded to the dielectric member with an adhesive material.

19. (Amended) The bus bar of claim 14 wherein the bus bar is to have ~~has~~ an inductance that is controlled to a predetermined inductance threshold.

20. (Currently Amended) A semiconductor package comprising:
a semiconductor die having a computer processor;
a plurality of die-side contact pads;
a plurality of board-side contact pads;
a substrate base having a plurality of traces and vias interconnecting the die-side contact pads and the board-side contact pads.
a first dielectric member;

an electrically conductive reference member coupled to a first surface of the dielectric member, the reference member ~~to define~~ defining a current path for a reference signal;

a first plurality of electrically conductive I/O members coupled to a second surface of the first dielectric member through a first dielectric layer, ~~such that the first I/O members to define~~ current paths for a corresponding first plurality of I/O signals;

a second dielectric member having a first surface coupled to the reference member, ~~such that the dielectric members being~~ are positioned on opposite sides of the reference member; and

a second plurality of electrically conductive I/O members coupled to a second surface of the second dielectric members, ~~such that the second I/O members to define~~ current paths for a corresponding second plurality of I/O signals the dielectric members and the I/O members defining a multi-signal bus bar having a substantial planar overall geometry.

21. (Currently Amended) The package of claim 20 wherein the I/O members have a predetermined spacing, ~~such that the I/O members being~~ are electrically isolated from one another.

22. (Currently Amended) The package of claim 21 further including:
~~a first dielectric layer disposed between the dielectric material and the first I/O members;~~
and
a second dielectric layer disposed between the second dielectric member ~~material~~ and the second I/O members.

23. (Currently Amended) A method of fabricating a multi-signal bus bar, the method comprising:

~~providing a dielectric member;~~

coupling an electrically conductive reference member to a first surface of ~~a~~ the dielectric member, the reference member defining a current path for a reference voltage signal; and

coupling a plurality of electrically conductive I/O members to a second surface of the dielectric member, ~~such that~~ the I/O members defining ~~define~~ current paths for a corresponding plurality of I/O signals.

24. (Currently Amended) The method of claim 23 further including coupling the I/O members to the second surface at a predetermined spacing, ~~such that~~ the I/O members being ~~are~~ electrically isolated from one another.

25. (Currently Amended) The method of claim 23 further including bonding the I/O and reference ~~referencee~~ members to the dielectric member with an adhesive material.